fernald

Report

March 1998

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message from
Jack Craig

Accelerating Cleanup - Paths To Closure

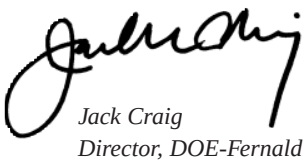
Last month I had a chance to touch on the subject of Fernald's Accelerated Cleanup Plan and how President Clinton's proposed 1999 budget supports this effort. This month I'd like to take a closer look at what acceleration means and how we fit into the plan within the Ohio Field Office.

The Ohio Field Office first introduced an accelerated cleanup plan for all five of its sites during the Environmental Management Internal Review Budget conducted in May 1995. Prior to that review, the Fernald cleanup was seen as a twenty-five year project based on a fluctuating budget scenario. One year later, the Ohio Field Office committed to completing all five sites (Fernald, Ashtabula, Columbus, Mound and West Valley) by the end of FY 2005 at a cost of approximately $530 million per year. Since that time, we've been working toward this accelerated cleanup goal. As budgets have changed over the past few years, we've pressed on to meet regulatory milestones while reducing our legacy waste and administrative costs. Even though Fernald's budget for next year keeps us on the cleanup fast track, it is incumbent on us to continue to look for ways to reduce costs. I expect technology enhancements and improvements in how we operate to bring about significant change. For example, steps taken in the area of water treatment are translating into higher processing capacities and better treatment over a shorter period of time.

The Silos Project is another area that will be turning the corner. With Stakeholder involvement, we expect to position ourselves to move safely and quickly in retrieval, treatment and off-site disposal of this waste.

The Fernald Baseline reflects project completion in FY 2008, however the Ohio Field Office is committed to completing all major remediation activities by 2005. Less than seven years from now I expect final remediation activities to center around the closure of the On-Site Disposal Facility, completion of the Waste Pits project and continued ground water processing and monitoring.

As our work progresses, we will continue to carefully look at our priorities and explore ways to reduce our overhead and administrative costs in order to maximize the money being spent on site cleanup. We will look for ways to improve existing processes, use fixed-price subcontracts whenever possible and optimize work and project sequencing. The financial support is holding steady, but we must continue to prove and challenge ourselves at each step. Here again, our application of technology, the use of innovation and stakeholder involvement will be critical to ensuring a safe, efficient cleanup at Fernald.



Jack Craig
Director, DOE-Fernald

On the Cover: *A DeBra employee prepares for a concrete pour at a valve house, part of the South Field Extraction System project. (6734D-355)*

Waste Management Teams Develop Corrective Actions

Earlier this month Fluor Daniel Fernald Waste Shipping Program personnel submitted a draft recommendation of corrective actions to DOE in response to the Dec. 15, 1997 leaking white metal box incident and subsequent *DOE Type B Accident Investigation Board Report*. The final corrective action plan will be delivered to DOE-Fernald later this month.

As part of the corrective action plan, teams were formed to look at: procurement; waste generation; waste processing and packaging; waste loading; transportation and shipping; waste verification and disposal; emergency notification and response; lessons learned; and corrective action issues. Experts have also been brought in to help augment and validate the Fernald study. Specialists from Sandia National Labs, Los Alamos, Hanford, as well as private companies are being utilized to study various aspects of waste shipping.

Above: Mike Malone uses a magnetic contour probe to check for stress cracks on a white metal box. This is just one of the many tests conducted to ensure a "zero-defect" Waste Shipping Program. (6788-413)

Team Members Achieve Safe Work Hour Milestone

Fernald team members reached the 1 million safe work hours mark on Feb. 12, 1998. This achievement is especially significant because of the challenging activities underway. “The level of activity is as high or higher than it was during production days,” said Dave Kozlowski, DOE associate director for safety and assessment. “This is a positive indicator and shows significant progress. It's a sign of the employees' attention to safety and their working conditions.” The site's subcontractors have also demonstrated their commitment to safety by working for more than five years without a lost-time accident. “This is only the beginning,” said John Bradburne, Fluor Daniel Fernald president. “Our goal for 1998 is to reach 3.9 million safe work hours, and I am confident the team we have assembled will make that happen.”

Left: Safe Shutdown personnel played a big role in helping Fernald team members achieve 1 million safe hours by completing difficult work safely (6383-413).

Cleanup **Progress** Update

Waste Pits Remedial Action Project (WPRAP)

- Continued Shandon Yard and on-site rail infrastructure upgrades
- Continued review of IT Corporation's pre-mobilization contract deliverables (includes such items as *Pre-Operational Health and Safety Plan*, Site Preparation package, and *Excavation Plan)*
- Awarded contract for construction of rail and access road lighting
- Incorporated DOE comments into *Transportation and Disposal Plan*

On-Site Disposal Facility (OSDF)

- Began construction of OSDF Material Transfer Area and Decontamination Facility
- Performed regular inspections of seasonal cover; no maintenance required this month
- Continued review of contractor proposals for OSDF Phase II/Southern Waste Units excavation contract (to be performed in conjunction with Soil Characterization and Excavation Project)
- Continued closeout of Leachate Conveyance System

Above: CSXT laborers replaced railroad ties, as part of the Shandon Yard upgrade. (6803D-024).

Right: Workers place ballast or broken stone in the North Rail Yard to level the new track. (6349D-1297).

Far right: A transfer area is being prepared for the OSDF. Material from the former process area will be temporarily stored here prior to placement in a cell (6319D-1147).

Facilities Closure & Demolition Project (FC&DP)

Safe Shutdown

- Plant 8 —
  - Isolated underground sewage line and fire suppression system
  - Performed holdup material removal activities
- Plant 6 —
  - Continued isolation of tank containing sodium hydroxide and sodium sulfide mixture. This activity will eventually involve drumming, coding and storage of material
  - Sealed off Rolling Mill area

Decontamination & Dismantlement (D&D)

- Boiler Plant/Water Plant —
  - Completed window removal at Boiler Plant
  - Completed demolition of Process Water Break Tank
  - Began demolition of Boiler Plant and Coal Handling Area
- Thorium/Plant 9 Complex —
  - Continued friable asbestos abatement, equipment removal and interior demolition
  - Continued preparation and submittal of *Safe Work Plans*
- Maintenance/Tank Farm Complex —
  - Submitted *Implementation Plan* to regulatory agencies

Above left: Asbestos removal work continues in Plant 9. Here asbestos insulation is carefully removed from process piping before bagging (6494-180D).

Below left: Boiler Plant demolition continued to progress aided by favorable weather and lessons learned. (6407D-492).

Below: Support facility for Silo 3 Small-Scale Waste Retrieval Mockup (6759-46).

Silos Project

- Issued *Request for Proposal (RFP) for Silos 1 and 2 Proof of Principle Testing*
- Received DOE-OH approval of *Final Silo 3 Explanation of Significant Differences;* submitted to U.S. EPA for signature
- Revised *Silo 3 Draft RFP* to incorporate off-site treatment; initiated internal review
- Continued System Operability/Mock-Up Testing of Silo 3 Small Scale Waste Retrieval at Silo 4

Cleanup **Progress** Update

Right: Chris Taylor from B&J Electric installs instrumentation for the AWWT Expansion Project. (5531A-1018D).

Below: A radiation technician monitors for surface contamination in the Southern Waste Units. (6734D-320).

Below right: The completed Paddy's Run Stabilization Project (6690-47).

Aquifer Restoration & Waste Water Project

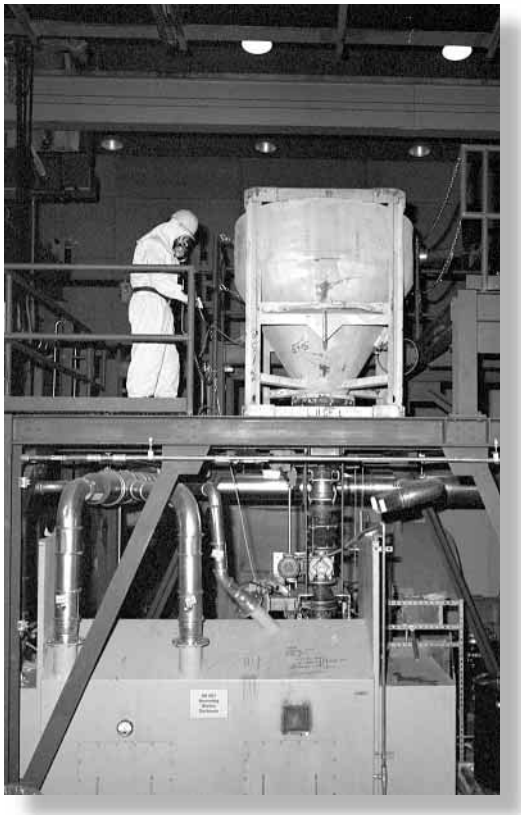
- Completed Construction Acceptance Testing
  - System Operability Testing and Standard Startup Review on Advanced Wastewater Treatment (AWWT) Resin Regeneration System
- Continued construction/readiness activities for:
  - AWWT Facility Expansion
  - New Sewage Treatment Plant
- Started pipeline installation for South Plume Optimization Project

Soils Characterization & Excavation Project

- Completed field activities for Phase II of Paddy's Run Embankment Stabilization Project; only minor checklist items remain prior to demobilization
- Continued field implementation activities for Area 2 Phase I (Southern Waste Units) Site Preparation package, including completion of high density polyethylene infiltration barriers within retention basins
- Continued procurement process for OSDF Phase II/Southern Waste Units excavation contract (to be performed in conjunction with OSDF Project)

Waste Management/ Nuclear Materials Disposition Projects

- Liquid Mixed Waste Project— Waste shipments are on hold, per order of the governor of Tennessee. No new shipments are being accepted for treatment at the Toxic Substances Control Act Incinerator in Oak Ridge, Tennessee, until the issue of Oak Ridge National Laboratory's access to disposal of wastes at the Nevada Test Site is resolved
- Neutralization/Precipitation/Deactivation/Stabilization Project— Neutralized 47 drums; a total of 724 drums were treated as of Feb. 24, 1998
- Nuclear Materials Disposition Operations— Continued packaging and shipment of metal in support of contract for sale of low enriched uranium materials; a total of 15 truckloads were shipped as of Feb. 27, 1998
- T-Hopper Repackaging System— Began operations on Feb. 17, 1998; packaged 11 drums of uranium oxide



Above: Packaged ingots in Plant 6 are inspected by Darnell Bailey prior to shipment (6826-13D).

Far left: The T-Hopper repackaging station is now in operation in Plant 6 (6714-91).

Left: A number of tests are being performed in support of white metal box corrective actions. Team member Bryan Parker weighs a sorbent prior to testing (6821D-79).

Fernald Technology Reaffirms its Rating of Excellence

Through recent technological exchanges and transfers, Fernald's Technology Programs Department continues to excel in its efforts to quantify technology needs and coordinate actions with other DOE sites.

In February, Fernald hosted an information exchange with project managers from Rocky Flats and Miamisburg. Participants addressed key facility closure issues, including characterization approach, project cost, regulatory strategies, technology needs, potential technology solutions, property disposition and waste management activities. Deemed a success by participants, a follow-up exchange at Rocky Flats is anticipated.

Made possible through the Office of Science and Technology's Large Scale Technology Demonstration program, Fernald also organized the transfer of oxy-gasoline torches to Hanford and Ashtabula. The oxy-gasoline torch cuts metal faster, cleaner and safer than acetylene torches.

Above: An oxy-gas torch was used to segment this 1.5-inch thick steel tank, which was part of the Fernald Plant 4 complex. The D&D subcontractor purchased the torch after attempts to segment this tank were unsuccessful with an acetylene torch (6429-143).

Above: DOE-Fernald's Silos Project Team Leader Nina Akgunduz, right, discusses Silos Project path forward with interested stakeholders at the March 4 public workshop (6831D-006).

DOE Encourages Public Involvement in Silos Project

On Wednesday, March 4, DOE held a public workshop to discuss issues pertaining to the Silos Project path forward. Specifically, Fernald representatives presented a proposed communication strategy developed to keep stakeholders informed about and involved in activities associated with the project.

Nina Akgunduz, DOE-Fernald Silos Project team leader presented timelines for each of the primary Silos Project activities. The timelines included anticipated dates for document submittals and future public involvement activities. Akgunduz explained that the Silos Project path forward is based on EPA approval and stakeholder concurrence. The information presented at the meeting is available at DOE's Public Environmental Information Center (PEIC) located at 10845 Hamilton-Cleves Highway (513) 648-7480.

The next opportunity for stakeholders to get involved in the Silos Project decision-making process is to review sections of the *Silos 1 & 2 Accelerated Waste Retrieval Request for Proposal (RFP)* including the Statement of Work, Evaluation Criteria, and Technical Requirements document. A public briefing is being offered on April 1. This meeting will be held at the Alpha Building beginning at 6:30 p.m. After stakeholders have the opportunity to provide comments, DOE plans to issue the *Accelerated Waste Retrieval RFP* for bid in June 1998.

Holdup Removal In Plant 8 Complete

Safe Shutdown has completed holdup removal in the former Recovery Plant, bringing the total of buildings the group has prepared for decontamination and dismantlement to seven. With the completion of Plant 8, there are only two nuclear facilities yet to be placed in a safe configuration. "Removing the holdup material from Plant 8 proved to be a more difficult task than we had anticipated," said Monty Morris, Safe Shutdown project manager. "We had planned on Uranium-235 as the isotope of concern, when we discovered the presence of thorium it slowed our schedule considerably."

The Safe Shutdown team also didn't expect to find approximately 2,500 gallons of contaminated sludge in a sump on the building's east pad. "The material was too thick to pump," Morris explained. "We had to remove it by hand, two gallons at a time, and each bucket of sludge weighed about 30 pounds."

In spite of these difficulties, Safe Shutdown was able to complete work in Plant 8 on schedule and within budget. "This accomplishment is a real credit to our people in the field," Morris said. "They overcame numerous challenges to make this project a success."

Above: The use of non-destructive assay technology helped Safe Shutdown pinpoint the location of holdup material, saving the group considerable time and money (6681-79D).

Environmental Monitoring Data to be Issued This Summer

An *Integrated Environmental Monitoring Plan (IEMP)* has been developed to encompass planned cleanup activities at the site. This revised plan (successor to the Fernald's *Site Environmental Monitoring Plan)* redirects existing environmental program elements from project specific activities toward big picture, sitewide cleanup activities. The *IEMP* also takes into account any new regulatory requirements for sitewide monitoring.

The *IEMP* provides an independent appraisal of the effectiveness of administrative and engineering emission controls accompanying Fernald's cleanup projects. Quarterly status reports are prepared and submitted to DOE, EPA and Fernald stakeholders to provide more timely data. An annual report will be prepared and submitted to DOE, regulators and stakeholders similar to the annual *Site Environmental Report.*

The transition report for calendar year 1997 is expected to be issued in June 1998. This report will provide information on Fernald's environmental monitoring activities including: groundwater, surface water, sediment, and air. Similar to previous annual environmental reports, a summary of Fernald's cleanup strategy, as well as compliance related information, will be prepared. Quarterly status reports on Fernald's environmental monitoring activities are available at the PEIC.

Above: Workers positioning a 20-inch, high density polyethylene pipe into a fusion welding machine in support of the aquifer restoration (6261-323).

Committed to Science Education

Fernald Education Outreach programs reach hundreds of students and teachers each month. Some of the recent community projects include:

- **Celebrating National Engineers Week -** Fernald engineers spoke to nearly 1,000 students about careers and the cleanup challenges at Fernald.
- **Creative Problem Solving Institute -** Through the Minorities in Mathematics, Science and Engineering program, Fernald sponsored a six-week workshop about the problem-solving process.
- **Science Fairs -** Volunteers served as judges for eight area science fairs.
- **Gift Program -** Each month area schools and other non-profit organizations receive excess equipment such as computers and lab supplies.
- **Shadowing -** Many schools require real-world job shadowing experiences for their students as part of career-path classes. Fernald team members have recently had "shadows" from several local schools.

Above: Beau Collins, a sixth grader at Harrison Elementary, uses the new science lab to make "slime" in a lesson on chemical reactions. Some of the supplies, curriculum and equipment used in the lab came from Fernald (6752-1).

Left: 530 tons of rail and spike plates from Fernald will be decontaminated and recycled as a result of one of the supplemental projects (6494-162).

Activities on Supplemental Projects to Begin in the Spring

The *Operable Unit 4 Dispute Resolution Agreement*, specifies that five supplemental environmental projects will be implemented by DOE-Fernald for missing milestones associated with the Silos Project. Two of the projects involve recycling, and the remaining three projects are related to the enhancement or protection of natural resources.

The two recycling projects involve the decontamination and unrestricted release of approximately 775 tons of steel, copper, and miscellaneous metal streams. The three natural resource projects include the establishment of a conservation area near the site, the implementation of ecological research grants and the establishment of an on-property, public access habitat area. Contracts with researchers from Miami University, Ohio University, and the University of Dayton are currently being established. Project activities are underway this month and will continue throughout the next few years.

A combined work plan for the two recycling projects has been approved by the U.S. and Ohio EPA's while draft work plans for the other three projects are being finalized.

Recent Tours

Five representatives from Weldon Spring, a DOE facility in Missouri, met with DOE and Fluor Daniel Fernald managers to discuss and share information about projects that are common to both sites. They concluded their two-day visit with a tour.

From left to right: first row: Marjorie Wesley, Karen Reed, Stephen McCracken, Sheryl Hodges; second row: Dave Rast and Wayne Pasko (Fernald - DOE Project Mgrs.) and Thomas Pauling (6810D-002).

On February 5, Darien Simon braved the unexpected snow storm to take a tour of Fernald. Simon, from Rutgers University in New Jersey, is a member of the Consortium for Risk Evaluation with Stakeholder Participation. She is researching several DOE sites, talking to local officials, and compiling lessons learned to share with communities near DOE facilities undergoing closure.

Left: Jeanie Foster, Fluor Daniel Fernald tour coordinator, talks about the remediation ongoing at Fernald with Darien Simon (6810D-006).

Since the greater part of Fernald lies in Crosby Township the trustees have always been interested in the site. They returned this year for their 13th annual Fernald tour.

From left to right: Jim Harper, trustee Jane Harper, trustee Gary Storer, Barb Storer, and trustee Melba Guard (6810D-003).

Paths to Closure
Seeking Public Comment

On March 2, James Owendoff, Acting Assistant Secretary for Environmental Management, released the draft national cleanup strategy, *Accelerating Cleanup: Paths to Closure*, for public comment. Members of the public may review the report until May 28, 1998.

Paths to Closure is the next version of the discussion draft of *Accelerating Cleanup: A Focus on 2006*, released in June 1997. The current draft is a significant step forward in the project-by-project, site-by-site analysis of the cleanup of radioactive, chemical and hazardous waste left after the 50 years of U.S. production of nuclear weapons. Also available is the Ohio Field Office *Accelerating Cleanup: Paths to Closure, Draft Site Narratives, February 1998.*

Copies of these plans can be obtained from the PEIC.

New Documents Added to the Public Environmental Information Center

The following information has recently been added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE's Public Environmental Information Center (PEIC):

- Draft Preliminary Wetland Mitigation Assessment
- On-Site Disposal Facility Impacted Materials Placement Plan
- Transmittal of the Draft Start-up Monitoring Plan for the South Field Extraction and South Plume Optimization Modules; Request for Modification of Commence Operations Dates Established in the Remedial Action Work Plan for Aquifer Restoration of Operable Unit 5
- Transcript from Dec. 2, Silos Project public meeting held in Nevada
- Information from the Jan. 13, Fernald Cleanup Progress Briefing
- U.S. EPA response to Fernald Citizen Advisory Board request for the advice from Department of Energy and the Regulatory Agencies on Priorities and Issues
- Transmittal of Responses to U.S. EPA Comments for the Project Specific Plan, "Waste Acceptance Criteria Attainment of Collapsed Soil in Paddy's Run"
- Submittal of Draft Final Waste Acceptance Criteria Attainment Plan for the On-Site Disposal Facility

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